

# **Medical Response to Mass Casualty Incidents**

**Kennedy Space Center**

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Approved by:

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**Scope**

This document further defines the medical response referenced in the Comprehensive Emergency Management Plan, [KNPR 8715.2](#). In the event of a mass casualty incident, all available Kennedy Space Center (KSC) medical forces will respond to the disaster. This document is not intended to describe the emergency medical response to astronaut flight crew and supporting ground crew during a launch or landing contingency.

**Personnel:**

- Occupational Health Facility (OHF) staff
- Triage Doc or senior Health Care Provider (HCP)
- Initial Response Team – Paramedics
- Triage Team – Triage Doc, Paramedics
- Decontamination (Decon) Team – Environmental Health Specialists (supplemented by personnel with decontamination water as available)
- Red (Immediate) Team – Advanced Cardiac Life Support/Advanced Trauma Life Support (ACLS/ATLS) trained physicians, and ACLS nurses and paramedics
- Yellow (Delayed) Team – Nurse(s), Paramedic(s)
- Green (Minimal) team – Paramedic(s) or other available health care providers
- Medevac Team – Fire-Rescue, paramedics
- Manpower – all available
- Bioenvironmental Team – Industrial Hygienists, Health Physics personnel
- Administrative Support – Triage Communicator, Transportation Officer
- Logistics Support – Logistics Coordinator

**Operations Plan:**

- Notification
  - During normal duty hours, the OHF will receive notification of a potential mass casualty disaster by the Protective Services Control Center (PSCC). After duty hours and on weekends and holidays, the KSC Environmental and Medical Contract (KEMCON) Medical Director will be contacted by PSCC personnel. The KEMCON Medical Director will determine the degree of recall of KSC medical personnel. The KEMCON Medical Director will notify the NASA Aerospace Medicine and Occupational Health Branch as deemed necessary.
- Initial response
  - Ambulances will be dispatched by PSCC, as deemed appropriate, until the OHF assumes full control of the medical forces. The KEMCON Medical Director, or designee, will notify PSCC when the OHF is ready to take control of the medical forces.
  - Medical Emergency Response forces will be dispatched to the disaster area Entry Control Point (ECP) using a safe route established by the On-Scene Commander (OSC). Upon arrival at the ECP, the senior HCP will determine the number of casualties and the nature of injuries (burn, chemical, biological, etc.) and relay this information to the OHF when operational or PSCC at other

times. The OHF/PSCC will dispatch all available medical resources, as deemed appropriate, to the Casualty Collection Point (CCP – see below).

- **Casualty Collection Point**
  - Location of the CCP will be determined by the OSC. Ground traffic, air traffic and a helicopter landing zone will be given consideration. The CCP will be clearly marked with Triage Flags at the decontamination area and should be located as close as safely possible to the disaster scene. Fire-Rescue personnel with appropriate protective equipment will rescue casualties from the disaster scene and transport them to the decontamination area or CCP.
- **Decontamination**
  - In order to maintain a safe CCP, casualties should be decontaminated (if necessary) prior to transport to the CCP. If the OSC determines the need for chemical, biological, or nuclear agent decontamination, the Decon Team will set up a decontamination area at the initial casualty drop-off point. Casualties will be decontaminated according to severity of injuries or illness as triaged by Fire-Rescue personnel. A clearly marked Clean-Dirty Line (CDL) will be established and enforced by the Triage Team.
- **Triage**
  - A triage site will be established at the CCP on the “clean” side of the CDL. Casualties will be categorized and tagged according to their severity of injuries using standardized categories:
    - Red (Immediate/Med Code Red)
    - Yellow (Delayed/Med Code Yellow)
    - Green (Minimal/Med Code Green)
    - Black (Deceased or Expectant/Med Code Black)
  - The medical forces at the triage site will manage patients/victims according to Basic Life Support/ACLS/ATLS standards of care and determine the need for additional medical care. Casualties will then be transferred from the triage site to the appropriate treatment team.
- **Casualty Stabilization**
  - Three casualty treatment teams will be established at the triage site:
    - Red (Immediate) team, designed to manage Med Code Red patients
    - Yellow (Delayed) team, designed to manage Med Code Yellow patients
    - Green (Minimal) team, designed to manage Med Code Green patients
  - Each team will be appropriately manned (best effort), equipped, and stocked and will render appropriate levels of medical care upon receiving casualties.
  - After treatment/stabilization, casualties will be moved to the transport area for medevac by ground or air.
- **Medevac**
  - The Transportation Officer will coordinate requests, procurement, and traffic flow of ground medevac vehicles around the CCP. Casualties will be prioritized and transported according to severity. Coordination with the various treatment team leaders may be necessary.
  - Ground traffic control - The Transportation Officer will coordinate safe ground traffic flow for medevac vehicles with the OSC and Security Forces.

- Air traffic control - The Transportation Officer will coordinate a safe landing zone for responding aeromedical evacuation (air evac) helicopters with the OSC and the Security Forces.
- Casualty Tracking
  - The Transportation Officer will be responsible for tracking the condition and disposition of all casualties processed through the CCP. Standard color-coded triage tags will be used for each casualty processed through the CCP and all casualties will be accounted for using the number on the triage tag. Information (total number of casualties and subtotals by category with disposition) will be forwarded to the OSC and OHF on a periodic basis.
- Environmental threats
  - The Triage Doc/senior HCP will evaluate any additional environmental threats such as heat, cold, mosquitoes, etc. and arrange for adequate protection for the CCP personnel and casualties.
- Coordinating with Fire-Rescue/Security Forces
  - In order to guarantee the safety and preserve the integrity and efficiency of the CCP, all movement and activities will be controlled by the on-scene senior HCP and coordinated with fire-rescue and security forces through the OSC.
- Coordinating with Local, State, and Federal Emergency Medical Services
  - Mutual aid is requested through either the OHF or PSCC. PSCC will notify Brevard County of the incident and the county disaster response forces will determine the appropriate response to support the event.
  - The senior on-scene HCP will coordinate any medical services provided by local, State, and Federal resources.
- Deceased casualties
  - All remains of deceased casualties will be transported to an area separate from the CCP as designated by the OSC. Any deceased casualties initially processed through the CCP will be accounted for by the Transportation Officer prior to transport to the designated area.

**Command and Control:**

The Incident Commander will have command and control of the entire disaster area. The senior HCP will maintain control of on-scene KSC medical resources.

**Equipment and supplies:**

- All available KSC vehicles, equipment, and supplies may be used during a mass casualty incident.
- Pre-staged medical triage packets will be used to support the incident.

**Communication**

- Radio Channel 117 will be used during a mass casualty incident.

**Post-Incident Services:**

- An Investigation Team Medical Officer will be assigned by the Chief, Aerospace Medicine and Occupational Health Branch.
- Sustained Medical Services will be provided by KEMCON to support ongoing search and rescue/recovery operations.
- Critical Incident Stress Management services will be provided by the Employee Assistance Program coordinator and/or contracted local-area professionals.

**Responsibilities:**

- Chief, Aerospace Medicine and Occupational Health Branch
  - Develop, implement, and maintain Medical Response to Mass Casualty Incidents Plan
- Director, Occupational Health Facility
  - Provide trained medical personnel, equipment, and supplies to support the KSC Medical Response to Mass Casualty Incidents Plan. Maintain a Mass Casualty Medical Response recall roster.

**Approval and Coordination:**

- Review and approve: Chief, Aerospace Medicine and Occupational Health Branch

## CCP FLOW DIAGRAM

